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Education

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| 1993-1999 | Ph.D., Psychology Department, Vanderbilt University, Nashville, TN. |
| 1991 | B.S., Psychology Department, National Taiwan University, Taipei, Taiwan. |

Research/Professional Experience

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| 2004-present | Research Fellow (Advisor: Alan Koretsky)
National Institutes of Health, National Institute of Neurological Disorders and Stroke,
Laboratory of Functional and Molecular Imaging, Bethesda, MD. |
| 1999-2004 | Postdoctoral Fellow (Advisor: Leonardo Cohen)
National Institutes of Health, National Institute of Neurological Disorders and Stroke,
Human Cortical Physiology Section, Bethesda, MD. |
| 1998-1999 | Research Assistant (Advisor: Jon H. Kaas)
Psychology Department, Vanderbilt University, Nashville, TN. |
| 1994-1997 | Teaching Assistant
Psychology Department, Vanderbilt University, Nashville, TN. |
| 1993 | Research Assistant (Advisor: Jon H. Kaas)
Psychology Department, Vanderbilt University, Nashville, TN. |
| 1991-1993 | Research Assistant (Advisor: C.S. Tung)
Department of Biophysics, National Defense Medical Center, Taipei, Taiwan. |
| 1987-1991 | Part-time Research Assistant (Advisor: K.C. Liang)
Department of Psychology, National Taiwan University, Taipei, Taiwan. |

Academic Honors and Awards

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| 2004 | Fellow Award for Research Excellence - National Institutes of Health, Bethesda, MD. |
| 2003 | Special Act or Service Award – National Institute of Neurological Disorders and Stroke,
Bethesda, MD. |
| 2003 | Fellow Award for Research Excellence - National Institutes of Health, Bethesda, MD. |

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| 1999-2004 | Intramural Research Training Award - National Institutes of Health, Bethesda, MD. |
| 1999 | Travel Award - Society for the Neural Control Movement Symposium, Kauai, Hawaii. |
| 1999 | Travel Award - Graduate School of Vanderbilt University. |
| 1996 | Travel Award - 20th Symposium of the Center for Visual Science, University of Rochester, Rochester, NY. |
| 1994 | Travel Award - 18th Symposium of the Center for Visual Science, University of Rochester, Rochester, NY. |
| 1991-1993 | Training Award - S.C. Wang Foundation at the National Defense Medical Center, Taipei, Taiwan. |
| 1990 | Student Fellowship Award - National Science Council of Taiwan, Taipei, Taiwan. |

Referee for Scientific Journals

Experimental Brain Research

Scientific Societies

Member, Society for Neuroscience

Member, Society for International Brain Research Organization

Publications-Peer Reviewed Papers

Wu WH, Hwang NG, Yin TH, Tung CS (1993). Effect of prefrontal cooling on levels of glutamate, DOPAC, and 5-HIAA in nucleus accumbens and striatum *in vivo*. *The Chinese Journal of Physiology* 36:1-6.

Tung CS. **Wu WH**, Tseng CJ, Yin TH (1994). Effect of amperozide on schedule-induced polydipsia in rats. *European Journal of Pharmacology* 256:193-200.

Wu WH, Hwang NK, Tseng CJ, Yin TH, Tung CS (1995). Evidence that 5-HT(2) antagonism elicits a 5-HT(3)-Mediated increase in dopamine transmission. *Journal of Biomedical Science* 2:174-182.

Wu CWH, Florence SL, Tigges MH, Kaas JH (1998). Morphology of M-cell axon arbors in striate cortex of monkeys reared with monocular aphakia. *Developmental Brain Research* 108:47-57.

Wu CWH, Kaas JH. (1999). Reorganization in primary motor cortex of primates with long-standing therapeutic amputations. *Journal of Neuroscience* 19:7679-7697.

- Wu CWH**, Bichot NP, Kaas JH (2000). Converging evidence from microstimulation, cytoarchitecture and connectivity for multiple motor areas in frontal and cingulate cortex in prosimian galagos. *Journal of Comparative Neurology* 423:140-177.
- Wu CWH**, Kaas JH (2000). Spinal cord atrophy and reorganization of motoneuron connections following long-standing limb loss in primates. *Neuron* 28: 967-978.
- Wu CWH**, Kaas JH (2002). The effects of long-standing limb amputation on anatomical organization of the somatosensory brainstem and spinal cord. *Somatosensory and Motor Research* 19: 153-163.
- Wu CWH**, Kaas JH (2003). Somatosensory Cortex of Prosimian Galagos: Physiological recording, Cytoarchitecture and Corticocortical Connections in Anterior Parietal Cortex and the Vicinity of the Lateral Sulcus. *Journal of Comparative Neurology* 457: 263-292.
- Floel A., Peoppel D, Buffalo E, Braun A, **Wu CWH**, Seo HJ, Stefan K, Knecht S, Cohen LG (2004). Prefrontal cortex asymmetry for memory encoding of words and abstract shapes. *Cerebral Cortex* 14: 404-409.
- Pietrini P, Furey ML, Ricciardi E, Gobbini MI, **Wu WHC**, Cohen L, Guazzelli M, Haxby JV (2004). Beyond Sensory Images: Object-Based Representation in the Human Ventral pathway. *PANS* 101: 5658-5663.
- Boroojerdi B, Rothman D, Ognen P, Mason G, Appel M, **Wu CWH**, Sawaki L, Cohen LG. Rapid activity-dependent changes in GABA in the human visual cortex. Under revision for *Journal of Neuroscience*.
- van Gelderen P, **Wu CWH**, de Zwart J, Hallett M, Cohen LG, Duyn J. Functional resolution and reproducibility of BOLD and perfusion MRI at 3.0 Tesla. Submitted to *Magnetic Resonance Imaging*.
- Wu CWH**, van Gelderan P, Hanakawa T, Yaseen Z, Cohen LG. Enduring Representational Plasticity after Somatosensory Stimulation. Submitted to *Journal of Neuroscience*.
- Wu CWH**, Seo HJ, Cohen LG. Effect of peripheral somatosensory nerve stimulation on improvement of skillful hand functions of chronic stroke. (in preparation).
- Sawaki, L , Werhann K., **Wu CWH**., Cohen LG (2004) Effect of nerve stimulation in motor learning of use-dependent plasticity in stroke patients (in preparation).
- Wu CWH**, Werhan KJ, Katya S, Seo HJ, Floel A, Cohen LG. Neural substrate for the enhanced tactile spatial acuity (TSA) during acute hand deafferentation. (in preparation).

Publication-Abstracts

- Ching CP, **Wu WH**, Lu CC, Tung CS (1991). The effect of locus coeruleus and excitatory amino acid pathways on morphine dependent and withdrawal on schedule-induced polydipsia. *Eighteenth Annual Conference of Medical Science*, Taipei, Taiwan.
- Tung CS, Lu CC, Liu YP, **Wu WH**, Yin TH (1992). The role of central mono-aminergic system in adjunctive drinking (AD) control. *Seventh Annual Conference of Biomedical Science*, Taipei, Taiwan.
- Wu WH**, Liu YP, Tung CS (1992). *In Vivo* measurement of dihydroxyphenylacetic acid by intracerebral dialysis: change after amperozide. *Seventh Annual Conference of Biomedical Science*, Taipei, Taiwan.

- Liu YP, Tseng CJ, **Wu WH**, Tung CS (1992). Microdialysis studies on the 5-HT₂ analogue actions on midbrain DA neurons. *Seventh Annual Conference of Biomedical Science*, Taipei, Taiwan.
- Wu WH**, Liu YP, Tung CS (1992). The effect of potential antipsychotic drug, Amperozide on the schedule-induced polydipsia. *Nineteenth Annual Conference of Medical Science*, Taipei, Taiwan.
- Yin TH, **Wu WH**, Tseng CJ, Tung CS (1993). The effect of Amperozide on schedule-induced polydipsia (SIP) in rats. *Society for Neuroscience Abstracts* 19:170.
- Wu WH**, Florence SL, Kaas JH (1994). Effects of neonatal monocular aphakia on the morphology afferent axons to layer IV of striate cortex in macaque monkeys. *Society for Neuroscience Abstracts* 20:465.
- Wu WH**, Beck PD, Kaas JH (1995). Ipsilateral cortical connections of S1 (3b) in prosimian primates: evidence for five somatosensory areas. *Society for Neuroscience Abstracts* 21:112.
- Wu WH**, Beck PD, Kaas JH (1996). Cortical and thalamic connections of the second somatosensory area, S2 in the prosimian primate, *galago garnetti*. *Society for Neuroscience Abstracts* 22:107.
- Kaas JH, **Wu CWH**, Bichot NP (1997). Projections from the second (S2) and parietal ventral (PV) somatosensory areas to the superior colliculus in a prosimian primate. *Society for Neuroscience Abstracts* 23:1042.
- Wu CWH**, Bichot NP, Kaas JH (1997). Connections of the second (S2) and parietal ventral (PV) somatosensory areas with frontal motor cortex: a study combining electrorecording, microstimulation, cytoarchitecture, and connectivity. *Society for Neuroscience Abstracts* 23:1273.
- Wu CWH**, Kaas JH (1998). Converging evidence from microstimulation, cytoarchitecture and connections for multiple motor areas in frontal and cingulate cortex of prosimian primates. *Society of Neuroscience Abstracts* 24:653.
- Wu CWH**, Kaas JH (1999). Reorganization in primary motor cortex (M1) of primates with long-standing therapeutic amputations. *Ninth Annual Meeting of the Society for the Neural Control of Movement*. Princeville, HI.
- Wu CWH**, Kaas JH (1999). Spinal cord contribution to reorganization of primate primary motor cortex (M1) following long-standing limb amputation. *Society for Neuroscience Abstracts* 25:385.
- Pietrini P, Furey ML, Gobbini MI, Ricciardi E, **Wu WC**, Cohen L, Guazzelli M, Haxby JV (2000). Activation of ventral extrastriate visual cortex during tactile discrimination of faces and objects in congenitally blind subjects. *Society for Neuroscience Abstracts* 26.
- Wu CWH**, Kaas JH (2000). The effects of long-standing limb amputation on anatomical reorganization of the somatosensory afferents in the brainstem. *Society for Neuroscience Abstracts* 26.
- Wu CWH**, Bichot NP, Kaas JH (2001). Superior colliculus connection with physiologically identified somatosensory areas. *Annual Meeting of the Society for the Neural Control of Movement*. Seville, Spain.
- van Gelderen P, **Wu CWH**, Duyn J (2002). Spatial discrimination of combo pulse in visual and somatosensory cortex. *International Society for Magnetic Resonance in Medicine*. Honolulu, HI.

- van Gelderen P, **Wu CWH**, Hanakawa T, Cohen LG, Hallett MM, Duyn J (2002). Stability of perfusion and bold signals of combo pulse in motor tapping task. *International Society for Magnetic Resonance in Medicine*. Honolulu, HI.
- Wu CWH**, van Gelderen P, Hanakawa T, Kelen-Lang A, Dyne J, Hallett M, Cohen LG (2002). The effects of median nerve stimulation on the motor cortex: a fMRI study. *Society for Neuroscience Abstracts* 28. 562.11. Miami, FL.
- van Gelderen P, **Wu CWH**, Duyn J (2002). Comparing spatial discrimination of perfusion and bold fMRI. *Human Brain Mapping*, Sendai, Japan.
- Pietrini P, Furey ML, Ricciardi E, Gobbini MI, **Wu WC**, Cohen L, Guazzelli M, Haxby JV (2002). Neuroal activity in ventral extrastriate cortex during tactile discrimination of faces and objects in congenitally blind and sighted subjects. *International Conference on Functional Mapping of the Human Brain*, Sendai, Japan.
- Wu CWH**, Werhahn KJ., Stefan K, Seo HJ, Floel A, Cohen LG (2003). Neural substrates mediating enhanced tactile spatial acuity during acute anesthesia. *International Brain Research Organization*, Prague, Czech Republic.
- Sawaki L, **Wu C**, Stefan K, Yaseen C, Robinson C, Cohen LG (2003). Training-dependent encoding of motor memory in patients with chronic stroke. *American Academy of Neurology*, Hawaii, HI.
- Wu CWH**, Werhahn KJ., Stefan K, Seo HJ, Floel A, Cohen LG (2003). Neural substrates underlying enhanced tactile spatial acuity (TSA) during acute hand deafferentation. *Society for Neuroscience Abstracts*, New Orleans.
- Floel A, Poeppel D, Bufflo E, Braun A. **Wu C**, Seo HJ, Stefan K, Knecht S, Cohen L (2003). Frontal cortex symmetry for memory encoding of words and pictures. *Society for Neuroscience Abstracts*, New Orleans.
- Wu CWH**, Seo HJ, Cohen LG (2004). Improvement of paretic hand function by somatosensory stimulation in chronic stroke. Submitted to *World Stroke Congress*, Vancouver.
- Sawaki L, **Wu CWH**, Cohen LG (2004). Enhancement of use-dependent plasticity by peripheral nerve stimulation in patients with chronic stroke. Submitted to *American Academy of Neurology*, San Francisco.
- Hummel F, **Wu C**, Floel A, Gerloff C, Cohen LG (2004). Effects of transcranial direct current stimulation (tDCS) on motor function in patients with chronic stroke. Submitted to *American Academy of Neurology*, San Francisco.
- Wu CWH**, Werhahn KJ, Stefan K, Seo HJ, Floel A, Cohen LG (2004). Cortical substrates underlying enhancement in tactile spatial acuity (TSA) in one hand by acute deafferentation of the other hand. Submitted to *International Conference on Functional Mapping of the Human Brain*, Budapest, Hungary.
- Hummel F, **Wu C**, Giraux P, Gerloff C, Cohen LG (2004). Improvement of skilled motor functions in elderly healthy volunteers by cortical stimulation. Submitted to *International Conference on Functional Mapping of the Human Brain*, Budapest, Hungary.